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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/527,712

08/17/2005

Kuniko Kimura

12480-000108/US

9156

30593 7590 01/28/2008
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EXAMINER

ULLAH, ELIAS

ART UNIT

PAPER NUMBER

2892

MAIL DATE

DELIVERY MODE

01/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<p align="center">Office Action Summary</p>	Application No. 10/527,712	Applicant(s) KIMURA ET AL.	
	Examiner Elias Ullah	Art Unit 2892	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 22-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/11/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to an election restriction filed on 11/27/2007.

Election/Restrictions

Applicant's election without traverse of claims 1-21 in the reply filed on 11/27/2007 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12, 15-16, 18 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Quate (Quate, US 5,888,371).

With regard to claim 1, Quate shows a thin film (Fig. 3B, 13), comprising the step of applying a force (col. 4, lines 42-45) with a part having a sharp tip (302) onto a entire area or arbitrary region of a film during or after formation of the film (Fig. 3B), so as to control a structure of the film.

With regard to claim 2, Quate shows a thin film (13), comprising the step of applying a force (col. 4, lines 42-45) with a part having a sharp tip (302) onto an entire area or arbitrary region (fig. 3B) of a film during or after formation of the film with a temperature of the film maintained at or above a glass transition

temperature (col. 4, lines 1-15) of a amorphous region so as to control a structure of the film.

With regard to claims 3-4, Quate shows the force applied (col. 4, lines 42-45) on the film derives from only the part having a sharp tip (302), and at least one of an electric force generated by application of an electric field (col. 4, lines 41-50).

With regard to claims 7 and 8, Quate shows the thin film (13) is formed on a substrate (11).

With regard to claims 9 and 10, Quate shows the part having a sharp tip is an atomic force microscope (col. 4, lines 41-45).

With regard to claims 11 and 12, Quate shows plural areas of the film are simultaneously processed with plural parts having sharp tips (col.5, lines 9-15).

With regard to claims 15-16 and 18, Quate shows the structure of the film is controlled by scanning a film surface with the part having a sharp tip (col. 5, lines 5-16).

With regard to claim 21, Quate shows a multi layered film (Fig. 3A - 4A) is carried out on all of or some of the layers of the multi layered film.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 13-14 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quate is applied above claim 1 in view of Black et al (US 2004/0164363).

With regard to claims 13 -14 and 19-20, Quate fails to teach a crystalline structure of crystals constituting the film an orientation direction of crystals

constituting the film an orientation direction of molecules in the crystals or any combination of.

Black et al. teaches teach a crystalline structure of crystals constituting the film an orientation direction [0058] of crystals constituting the film an orientation direction of molecules in the crystals [0058] or any combination of [0058]. In view of this disclosure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to control film structure by crystalline orientation and direction of Quate because controlling film by crystalline orientation helps thin film to support nana scale device.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Quate is applied above claim 1 in view of Lee et al. (US 2006/0151779). With regard to claim 17, Quate fails to show the film is made of an organic polymer.

With regard to claim 17, Lee et al. shows the film is made of an organic polymer [0011].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elias Ullah whose telephone number is (571) 272-1415. The examiner can normally be reached on weekdays, between 8AM-5PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thao Le can be reached on (571) 272-1708. The fax

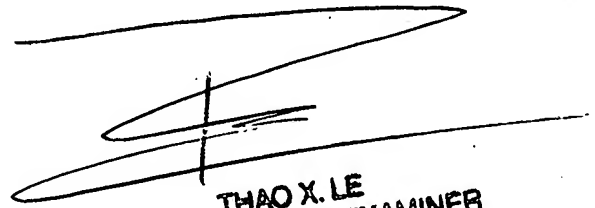
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phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Elias Ullah, January 18, 2008



THAO X. LE
PRIMARY PATENT EXAMINER